"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

Cold-rolling stainless steel tubes with ....

and partly on the ХПТ-75 (KhPT-75) and ХПТ-32 (KhPT-32) stands, with tubes 21 x 1.5 mm in size [93 x (6 - 8) mm ⟶ 53 x 3.5 mm ⟶ 21 x 1.5 mm]. It was found that reducing the number of passes improved the tube quality and rendered the finishing of the inner tube surface more easy. The power consumption for deformation and the tool consumption dropped (the latter by 20 - 25%). When rolling 70 x 6 ⟶ 38 x 2 mm tubes, cracks appeared in the finished tubes, due to tension stresses. These could be eliminated by turning over the tube twice on the KhPT-55 stand, which made it possible to increase the feed from 9 - 10 mm to 10 - 12 mm. When rolling 21 x 1.5 mm tubes according to this new method, buckles were observed on the tube surface, mainly caused by the great conicity of the mandrel and the groove width. To prevent these defects, the conicity of the mandrel was reduced to 0.03 and a considerable draft was applied at the beginning. Thus, buckles no longer formed and the output of the KhPT-55 mill was raised by 20% (the yield of grade-I product was 84% instead of 57% obtained when the first modification of the process was used). The consumption of groove pairs during 6 months was 169 instead of 206 (with the old method), while, moreover, the number of mandrels required decreased from 1,747 to 1,505 during the same period. However, the new rolling process requires material of high ductility. When rolling tubes of 1Х18Н9Т (1Kh18N9T) steel, its strength limit

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

DANILOV, Fedor Aleksandrovich; GLEYBERG, Anatoliy Zinov'yevich; BALAKIN, Valeriy Georgiyevich; SHEVAKIN, Yu.F., red.; VLADIMIROV, Yu.V., red.izd-va; KARASEV, A.I., tekhn.red.

[Hot rolling of pipe] Goriachaia prokatka trub. Izd.2., perer. i dop. Moskva, Metallurgizdat, 1962. 591 p. (MIRA 15:5)

(Pipe mills)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

32547

S/136/62/000/001/003/005
E082/E435

AUTHORS: Rusinovich, Yu.I., Shevakin, Yu.F.

TITLE: Cold rolling tubes in titanium and titanium alloys

PERIODICAL: Tsvetnyye metally, no.1, 1962, 75-78

TEXT: The changes in the mechanical properties with degree of deformation when cold rolling Ti and Ti alloys were studied and a graph of results plotted. Alloys BT1-1 (VT1-1), BT5-1 (VT5-1) and OT-4 all gave analogous results at lower values of deformation. At higher values VT5-1 showed brittle fracture - the others were little changed. Experiments were made to determine the permissible reduction of diameter of tubes at the beginning of the pass. Ductility of VT1-1 remained good after quite large reductions. The low ductility of OT-4 and VT5-1 precludes large reductions of diameter, which should not exceed 3 or 4%. Large reductions are inexpedient when using press-formed blooms due to the likelihood of cracks forming as a result of inherent flaws. Tests showed that the inclination of Ti alloys to fracture during cold rolling depends largely on the reduction of internal diameter and wall thickness. Reduction of internal diameter must not exceed

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

Cold rolling tubes in titanium

S/136/62/000/001/003/005
E082/E435

1.25 to 1 or 1.35 to 1. Recommended maximum values of taper for mandrels are given. Measurements of roll pressures showed that pressure is not a limiting factor when cold rolling Ti and Ti alloys. Maximum values of deformation are recommended for the various alloys. Experiments to determine the influence of feed rate on roll pressure showed that Ti can be cold rolled with feed rates of 10 to 12 mm. There are 5 figures and 4 Soviet bloc references.

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Specific features of ...

reductions in the momentary deformation zone and a smaller contact area; since the total roll pressure is also lower, the productive capacity of the rolls cannot be regarded as a factor limiting the thickness of the cold-rolled tubes. 2) Axial loads. The maximum compressive forces acting on the tube do not exceed 10% of the total roll pressure in rolling standard-sized tubes; this value can be doubled or trebled when thin-walled tubes are rolled. This means that in some cases the axial loads during rolling of thin-walled tubes could exceed the yield point of the metal with resultant damage to the end portion of the tube. Both the roll pressure and the axial loads can often be sufficiently reduced by the application of efficient lubricants such as MoS_2. When further reductions in roll pressure and axial loads are necessary, they can be attained by the following means: a - rotating the tube twice, i.e. before both the forward and reverse movements of the carriage; b - changing the radius ρ_w of the pitch circle of the driving gear; the optimum ρ_o/ρ_w ratio (where ρ_o is the radius of the roll) has been found to be approximately 1,1. 3) High quality of the final products can be attained by: a - using a mandrel with a

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu. F., doktor tekhn. nauk

Determining the magnitude of metal reduction in an instantaneous deformation center. Sbor. Inst. stali i splav. no.40: 361-368 '62. (MIRA 16:1)

(Pipe mills)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

RYTIKOV, A. M., inzh.; SHEVAKIN, Yu. F., doktor tekhn. nauk

Basic principles of grooving design for the cold rolling of rectangular pipes of nonferrous metals and alloys. Sbor. Inst. stali i splav. no.40:369-380 '62. (MIRA 16:1)

(Pipe mills) (Pipe, Copper)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

43269
S/848/62/000/040/004/005
E193/E483

AUTHORS: Shevakin, Yu.F., Doctor of Technical Sciences, Rusinovich, Yu.I., Engineer

TITLE: Design of roll passes for cold rolling of titanium alloy tubes

SOURCE: Moscow; Institut stali i splavov. Sbornik. no.40. 1962. Protsessy prokatki. 381-387

TEXT: Tests were carried out with the rolling of a 42 mm diameter, 0.8 mm wall thickness tube from 53 x 3.5 mm blanks. Three different kinds of roll passes obtained from three different empirical formulae proposed by different investigators were made. The roll pass geometry is defined in an illustration and accompanying table and the three formulae are recited. The rolling was carried out on mandrels with a 0.01 taper using ВТ1-1 (VT1-1), ОТ4 (OT4) and ВТ5-1 (VT5-1) titanium alloys. The pressure on the rolls, the total displacement, the rate of feed and the actual change in the wall thickness along the length of the roll pass were measured. The test results and their discussion have shown that a formula proposed by Yu.F.Shevakin et al (Stal', no.5, 1957) ensures a variation of the relative reduction along the

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu. F., doktor tekhn. nauk; SEYDALIYEV, F. S., kand. tekhn. nauk.

Geometry of the center of deformation during pipe expansion by transverse rolling. Sbor. Inst. stali i splav. no.40:388-394 '62. (MIRA 16:1)

(Pipe mills)
(Deformations(Mechanics))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

S/848/62/000/040/005/005
E193/E481

AUTHORS: Shevakin, Yu.V., Doctor of Technical Sciences, Rusinovich, Yu.I., Engineer

TITLE: On the plastic deformation mechanism of titanium alloy tubes during reduction

SOURCE: Moscow. Institut stali i splavov. Sbornik. no.40. 1962. Protsessy prokatki. 405-412

TEXT: The importance of a large reduction in the beginning of the swaging portion of a die groove in tube rolling to achieve high productivity and good quality final tubes is discussed. The maximum possible reduction is desirable which can be determined from the knowledge of the mechanism of plastic deformation. Three kinds of tests were carried out: (1) compression tests to destruction between flat strikers of the press on sockets made of OT4 alloy having a diameter of 46 mm, a wall thickness of 4 mm and a length of 50 mm; (2) compression of sockets between strikers with a round groove having a diameter of 40 mm; (3) different reductions of diameter in the beginning of the die groove during cold rolling of tubes. Starting with blanks measuring 46 x 4 and 50 x 4 mm of BT1-1 (VT1-1), OT4 and BT5-1 (VT5-1) alloys to

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be rolled into 30 x 2 mm tubes, the diameter reductions ranged between 1.4 and 8.1 mm. Conclusions: The roll passes for cold rolling of tubes of metals and alloys with a hexagonal crystal lattice (magnesium, titanium, zirconium and tantalum) as well as of heat resistant alloys and alloys with low ductility which constitute solid solutions, must be so arranged that the initial reduction is about 3 to 6%. It is believed that as a result of self-diffusion in the direction of the stress gradient, which may lead to the formation of a new phase near the slip planes, the deformation may otherwise become difficult. For a given total deformation, a certain ratio between the relative diameter and wall thickness changes must be preserved, e.g. for a wall thickness reduction of 50% the diameter reduction ratio must not exceed 1.35. There are 5 figures and 1 table.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu. F., doktor tekhn. nauk; RYTIKOV, A. M., inzh.;
KASATKIN, N. I., inzh.; MATVEYEV, B. N., inzh.

Determining reductions in the cold rolling of pipe. Sbor. Inst. stali i splav. no.40:413-421 '62. (MIRA 16:1)

(Pipe mills) (Deformations(Mechanics))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu. F., doktor tekhn. nauk; NAUMOV, S. A., inzh.

Effect of mill kinematics on force parameters. Sbor. Inst. stali i splav. no.40:422-430 '62. (MIRA 16:1)

(Pipe mills) (Machinery, Kinematics of)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu. F., doktor tekhn. nauk; NAUMOV, S. A., inzh.

Effect of the number of unit deformations on the energy consumption in the cold rolling of pipe. Sbor. Inst. stali i splav. no.40:431-438 '62. (MIRA 16:1)

(Pipe mills) (Deformations(Mechanics))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu. F., doktor tekhn. nauk; RUSINOVICH, Yu. I., inzh.; POTAPENKO, Yu. I., inzh.

Extrusion of a pipe billet of titanium and its alloys. Sbor. Inst. stali i splav. no.40:443-450 '62. (MIRA 16:1)

(Extrusion(Metals)) (Pipe, Titanium)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yuriy Fedorovich; MATVEYEV, Yu.M., red.; RYMOV, V.A., red. izd-va; DOBUZHINSKAYA, L.V., tekhn. red.

[Groving and forces in the cold rolling of pipe]Kalibrovka i usiliia pri kholodnoi prokatke trub. Moskva, Metallurgizdat, 1963. 267 p. (MIRA 16:3)

(Pipe mills)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu. F., doktor tekhn. nauk

Rated grooving for the cold rolling of pipe. Sbor. Inst. stali i splav. no.40:350-360 '62. (MIRA 16:1)

(Rolls(Iron mills) (Pipe mills)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu. F., doktor tekhn. nauk; NAUMOV, S. A., inzh.

Effect of the number of unit deformations on changes in the mechanical properties of steel. Sbor. Inst. stali i splav. no.40:439-442 '62. (MIRA 16:1)

(Pipe, Steel—Testing)
(Deformations(Mechanics))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

GOLOVKIN, R. V., inzh.; SHEVAKIN, Yu. F., doktor tekhn. nauk

Resistance welding of pipe by means of high-frequency currents. Sbor. Inst. stali i splav. no.40:460-464 '62. (MIRA 16:1)

1. Moskovskiy trubnyy zavod i Moskovskiy institut stali.

(Pipe—Welding)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

AM4016857 BOOK EXPLOITATION S/

Shevakin, Yuriy Federovich; Ry*tikov, Aleksandr Mikhaylovich; Seydaliyev, Fikrat Seydali-ogly*

Manufacture of nonferrous metal pipe; engineering computations (Proizvodstvo trub iz tsvetny*kh metallov; tekhnologicheskiye raschety*) Moscow, Metallurgizdat, 1963. 356 p. illus., biblio. Errata slip inserted. 2230 copies printed. Editor: K. N. Krucher; Publishing house editor: K. D. Misharina; Technical editor: P. G. Islent'yeva; Cover artist: I. V. Chichkina

TOPIC TAGS: cylindrical pipe, shaped pipe, extrusion, cold rolling, drawing, copper pipe, brass pipe, copper-nickel alloy MNZh5-1, nickel pipe, nickel-alloy pipe, bronze BrOF4-0.25

PURPOSE AND COVERAGE: This book is intended for engineers and technicians at pipe-producing plants and scientific-research and design institutes, and also for senior students specializing in the forming of metals. The manufacture of cylindrical and shaped pipe made of heavy nonferrous metals and alloys by extrusion, cold rolling, and drawing is analyzed. The method of computing the

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

AM4016857

SUB CODE: ML SUBMITTED: 10Jul63 NR REF SOV: 094

OTHER: 012 DATE ACQ: 10Dec63

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SEYDALIYEV, F.S.; SHAYKEVICH, V.S.; KOZLOV, O.F.; SHEVAKIN, Yu.F.

Experimental investigation of metal shape changing during the pipe expansion process with conical rolls. Izv. vys. ucheb. zav.; chern. met. 6 no.7:112-116 '63. (MIRA 16:9)

1. Moskovskiy institut stali i splavov.
(Pipe mills)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu.F.; MATVEYEV, B.N.; LINDENBAUM, V.I.

Determining reductions in an instantaneous deformation area during hot pilgrim rolling of pipe. Izv. vys. ucheb. zav.; chern. met. 6 no.7:122-127 '63. (MIRA 16:9)

1. Moskovskiy institut stali i splavov.
(Pipe mills) (Deformations (Mechanics))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SEYDALIYEV, F.S.; SHEVAKIN, Yu.F.

Calculating reductions during the cross rolling of pipe on mandrells. Izv. vys. ucheb. zav.; chern. met. 6 no.9:114-119 '63. (MIRA 16:11)

1. Moskovskiy institut stali i splavov.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

MATVEYEV, B.N.; LINDENBAUM, V.I.; STAROBINETS, Ya.S.; KARPENKO, L.N.; SHEVAKIN, Yu.F., doktor tekhn.nauk, nauchnyy rukovoditel' raboty

Determining the rolling radius in the hot pilgrim rolling of tubes. Izv. vys. ucheb. zav.; chern. met. 6 no.11:136-142 '63. (MIRA 17:3)

1. Moskovskiy institut stali i splavov i Chelyabinskiy truboprokatnyy zavod.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

ACCESSION NR: AP4009281 S/0125/64/000/001/0021/0024

AUTHOR: Konyushenko, A. T.; Golovkin, R. V.; Kononova, V. I.; Shevakin, Yu. F.

TITLE: Investigating resistance welding of tubing at 300 cps

SOURCE: Avtomaticheskaya svarka, no. 1, 1964, 21-24

TOPIC TAGS: welding, resistance welding, tube welding, 300 cps resistance welding, tube resistance welding

ABSTRACT: An investigation of the possibility of manufacturing welded 8-16-mm tubing equal in strength to seamless tubing is reported. At 100, 200, and 300 cps, tubing (146 batches) was experimentally welded at a rate of 30-87 m/min. It was found that the ultimate strength of the tubing welded at 300 cps was 50 kg/mm^2, and that almost all the specimens broke outside the weld. Specimens 28x0.8-mm welded at 60-70 m/min rate withstood pressures up to 250 atm. A

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

ACCESSION NR: AP4009281

frequency of 300 cps is recommended for small- and medium-diameter tubing with 1-3-mm thick walls. The 70-80-m/min rate permits increasing the productivity of the "6-32" tube-welding machine by 20-25%. The inside flash proved to be solid, easy-contoured, 0.3-0.4-mm or less high. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Moskovskiy trubny*y zavod (Moscow Pipe Works); Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys)

SUBMITTED: 28May63 DATE ACQ: 07Feb64 ENCL: 00

SUB CODE: ML NO REF SOV: 003 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

ACCESSION NR: AP4015112 S/0136/64/000/002/0070/0075

AUTHORS: Ry*tikov, A. M.; Shevakin, Yu. F.; Koshurin, A. V.

TITLE: Forces on the ram during tube extrusion

SOURCE: Tsvetny*ye metally*, no. 2, 1964, 70-75

TOPIC TAGS: Extrusion, extrusion force, tube extrusion, ram, design, upsetting, ram stress, ram compression, ram stretching force

ABSTRACT: Measurements were made of forces applied to 15, 26, 45 and 55 mm. diameter rams used in extruding tubes having 2,3,4, and 6 mm. walls from 150 x 200 mm. copper billets on a 1500 ton horizontal press. On upsetting the billet the forces on the ram increase to a maximum and then decrease as it approaches the die. The upsetting proceeds in two stages characterized by reverse flow of the metal which is progressively retarded by frictional forces until the deformation of the ingot is caused by shearing of the non-upset portion of the billet at the bottom. The nature of the change in stresses on

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

ACCESSION NR: AP4015112

the ram along the length of the ingot and the position of the maximum stress depends on the ratio of the ram and the container diameter. As the diameter of the ram decreases, the position of the maximum stress shifts in the direction of the die. The total of the stresses on the ram, σ, is the sum of the stresses due to the cutting forces, σ', and the frictional forces, σ'': $\sigma = Z(\sigma' + \sigma'')$, Z being the temperature coefficient accounting for the cooling of the metal (limits of 1.0-1.6). The force on the ram may be expressed by $P = (\pi d^2/4)$. The compression stresses on the ram decrease as its diameter increases, e.g. increasing the diameter from 15 to 55 mm. reduces stresses from 45 to 25 kg/mm^2. Resistance to deformation increases on transition from upsetting to extrusion, and the friction increases until it is the only force on the ram as the metal flows through the die. The forces on the ram are less with a larger diameter ram and a tube with thicker walls. Stretching forces are developed on the ram on removing it at the end of the extrusion. As a result of these investigations a new ram has been constructed (Shevakin, Yu. F., Ry*tikov, A.M. and Koshurin, A.V., inventor certificate No. 143009) comprising the combination of a larger removable ram and a smaller operating ram

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

ACCESSION NR: AP4015112

which is longer than present rams. "V. A. Petrov and V. I. Polovinkina participated in conducting the experimental work." Orig. art. has: 2 tables, 5 equations and 3 figures.

ASSOCIATION: None

SUBMITTED: 00	DATE ACQ: 12Mar64	ENCL: 00	
SUB CODE: MD, ML	NR REF SOV: 006	OTHER: 001	

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

L 19839-65 EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b) Pf-4 ASD(f)-3/ ASD(m)-3/AFMDC HJW/JD/HM/HW

ACCESSION NR: AP4049063 S/0148/64/000/011/0100/0104

B

AUTHOR: Dmitriyev, V. D.; Shevakin, Yu. F.; Fomenko, Yu. Ye.

TITLE: Peculiarities in the rolling of arc-welded pipes of stainless steel on KhPT milling machines.

SOURCE: IVUZ. Chernaya metallurgiya, no. 11, 1964, 100-104

TOPIC TAGS: stainless steel, stainless steel pipe, stainless steel rolling are welded pipe, pipe crack, steel rolling mill, stainless steel structure, steel Kh18N10T, KhPT rolling mill

ABSTRACT: Microscopic analyses and comparisons with Scheffler's diagrams have shown that cracks in the surface near the welded joints of pipes made of Kh18N10T steel are due to its austenite structure, and that the cracks do not appear when the steel structure is 3-5% ferrite, even when the joints are not cleaned before welding. Cold milling of this steel on KhPT machines causes reduction in both pipe diameter and wall thickness. Pipes with diameters of 38, 33, and 25 mm were quenched from 1100C and samples from them were taken for microstructural analysis. Cracks appearing at the seam of the inner surface increased to 0.6 mm when the reduction in diameter reached 45%, and were due to the extreme tension at that spot and the differing properties of the metal at the seam. Though metallographic analysis showed that quenching brought the seam nearer uniformity with the

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ACCESSION NR: AP4049063

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other sections, milling led to the new appearance of cracks at the seams. This was corrected by choosing the correct angle of setting on the milling machine, since the reduction in diameter of the pipe is increased by an increase in setting angle. The calibration of the machine was determined by Yi. F. Shevakin's functional method. Thus, the difference between forward and reverse strokes was minimized, and the welded pipes had mechanical and technological characteristics approaching those of seamless pipes. Orig. art. has: 6 photomicrographs, 2 drawings, and 1 table.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys)

SUBMITTED: 21Feb64 ENCL: 00 SUB CODE: MM

NO REF SOV: 006 OTHER: 003

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu. F.; CHERNYAVSKIY, A. A.; LAMIN, A. B.

Engineering method of calculating changes in wall thickness during tube drawing without mandrels. Izv.vys.ucheb.zav.; chern.met. 7 no. 5:104-109 '64. (MIRA 17:5)

1. Moskovskiy institut stali i splavov.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

KOZLOV, O.F.; CHEVAKIN, Yu.F.; SEYDALIYEV, F.S.

Contact surface during the cross rolling of pipe on a cylindrical mandrel. Izv. vys. ucheb. zav.; chern. met. 7 no.9:81-87 '64. (MIRA 17:6)

1. Moskovskiy institut stali i splavov.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

[illegible], A.[illegible]; [illegible]LOVKINA, R.V.; KONONOVA, V.I.; SHEVAKIN, Yu.F.

[illegible] the resistance welding process of pipe [illegible] by means of high-frequency current. Avtom.svar. 17 no.1:[illegible] Ja '64. (MIRA 17:3)

1. Moskovskiy trubnyy zavod (for Kopyshenko, Glovkina, Kononova).
2. Moskovskiy institut stali i splavov (for Shevakin).

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L 26107-65 EWT(d)/EWT(m)/EWA(d)/EWP(v)/EPR/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)
ACCESSION NR: AP4047424 Pf-4/Ps-4 IJP(c) MJW/ S/0136/64/000/010/0061/0063
JD/HW

AUTHOR: Shevakin, Yu. F.; Molodchinin, Ye. V. 32 B

TITLE: A study of pipe rolling from AMG6 alloy 27 4 7

SOURCE: Tsvetnyye metally, no. 10, 1964, 61-63

TOPIC TAGS: pipe rolling, aluminum alloy rolling, rolling temperature, magnesium alloy rolling, hot rolling, alloy annealing/AMG6 alloy

ABSTRACT: The article examines the possibility of increasing the plasticity and decreasing the deformation resistance of AMG6 alloy (an aluminum-magnesium alloy) by raising the rolling temperature in order to increase the productivity of the mills and improve pipe quality. To determine the plastic properties of pipe billets from AMG6 alloy, samples were subjected to tensile tests at temperatures between 20 and 325C on a KhPT-75 mill provided with a special heating system. It was found that AMG6 alloy can be successfully rolled in the annealed state at 120-220C; in the nonannealed state, it is necessary to raise the lower limit of the temperature interval to 150C. The microstructure of tubes rolled at high temperatures was compared to that of cold-rolled pipes. The advantages of using hot rolling in the manufacture of pipes from high-strength

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aluminum-magnesium alloys were elucidated. The mechanical properties of hot-rooled pipes were found to be independent of the rolling temperature and to be highly resistant to corrosion. In conclusion, the authors state that the substitution of hot rolling for cold rolling will raise the productivity of KhPT mills considerably. Orig. art. has: 1 figure and 1 table.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, IE

NO REF SOV: 000 OTHER: 000

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVARTY, Yu.F.; LASTERNAK, V.I.

Distribution of stresses in the bearing assembly of an electric pipe welding machine. Izv. vys. ucheb. zav.; chern. met. 8 no.11:99-102 '65. (MIRA 18:11)

1. Moskovskiy institut stali i splavov.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

L 54725-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) Pf-4 JD/HW
ACCESSION NR: AP5013323 UR/0148/65/000/005/0082/0084
621.774.35:539.43:620.17

AUTHOR: Shevakin, Yu. F.; Popov, M. V.; Seydaliyev, F. S.

TITLE: The influence of an alternating stress scheme on the mechanical properties of metal

SOURCE: IVUZ. Chernaya metallurgiya, no. 5, 1965, 82-84

TOPIC TAGS: pipe manufacture, stress analysis, metal mechanical property

ABSTRACT: The authors have investigated the condition of stress of a particular tube rolling process and the resulting mechanical properties of specimens cut from positions on the tube circumference. One and two rotations of the tube after the second pass is seen to lower the tensile strength(7-14%) and yield strength (10-15%) while practically not changing the ductility properties. Substantial improvements in mechanical properties as compared with sheet rolling and upsetting processes with equivalent deformation were noticed. Differences in properties about the perimeter are accounted for by the unequal reduction in cross section during rolling. From the dynamics of cold rolling of tubes, areas in tension before the

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ACCESSION NR: AP5013323

reverse pass become areas of compression after billet reversal and vice versa. Cold rolling of tube can thus be regarded as deformation under a scheme of alternating stress, the residual stress from one cycle adding algebraically to the stress necessary for the next cycle. Since the residual stress from the previous cycle is of opposite sign it lowers the energy requirements for the present cycle. Orig. art. has: 2 figures, 2 tables.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys)

SUBMITTED: 11Sep64 ENCL: 00 SUB CODE: MM, AS

NO REF SOV: 007 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

CHECHKIN, Yu.F.; SHAYKEVICH, V.S.; SEYDALIYEV, E.S.

Determining the specific and full pressure during the [illegible] expansion of tubes. Izv. vys. ucheb. zav.; chern. met. 8 no.3 (MIRA 18:3)
65-70 '65

1. Moskovskiy institut stali i splavov.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu.F.; VERTIK, Yu.A.; SEYDALIYEV, F.S.

Specific pressure during cold transverse plug rolling of tubes. Izv. vys. ucheb. zav.; chern. met. 8 no.1:71-77 '65
(MIRA 18:1)

1. Moskovskiy institut stali i splavov.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

L 31102-65 EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b) Pf-4 MJW/JD/HM

ACCESSION NR: AP5003498 S/0148/65/000/001/0088/0090

30
29
B

AUTHOR: Dmitriyev, V.D.; Shevakin, Yu. F.

TITLE: Mechanical properties of electrowelded Kh18N10T steel pipe

SOURCE: IVUZ. Chernaya metallurgiya, no. 1, 1965, 88-90

TOPIC TAGS: electrowelded steel pipe, arc welding, weld strength, cold rolling, quenching, seamless pipe/Kh18N10T steel

ABSTRACT: The purpose of the article was to determine the mechanical properties of cold-rolled electrowelded pipe in comparison with seamless pipe, since there is no unanimity among authors on this subject. Samples of both types (after quenching from 1100C) were tested in a Chevenard tensile strength machine. It was found that after rolling the properties of the metal itself and of the welded seam are identical. Metallographic analyses showed that the basic metal and that of the seam have the same structure. Samples were rolled at different deformation rates. It was found that immediately after welding and quenching from 1100C, the tensile strength and the relative elongation of the welded seam is lower than that of the basic metal. Quenching improves the plastic properties of the seam but lowers its tensile strength. Cold rolling followed by quenching

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L 31102-65

ACCESSION NR: AP5003498

gives to the welded seam a strength equal to that of the basic metal. Orig. art. has: 1 figure and 2 tables.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow steel and alloys institute)

SUBMITTED: 30Jan64 ENCL: 00 SUB CODE: MM, IE

NO REF SOV: 001 OTHER: 000

Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu.F.; KOZLOV, O.F.; SEYDALIYEV, F.S.

Investigating the cross plugging process. Izv. vys. ucheb. zav.; tsvet. met. 8 no.1:136-141 '65. (MIRA 18:6)

1. Moskovskiy institut stali i splavov, kafedra tekhnologii i avtomatizatsii prokatnogo proizvodstva.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu.F.; SHAYKEVICH, V.S.; SEYDALIYEV, F.S.

Speed conditions in the process of roller expansion of tubes.
Izv. vys. ucheb. zav.; chern. met. 8 no.5:98-104 '65.
(MIRA 18:5)

1. Moskovskiy institut stali i splavov.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

LINDE[illegible], [illegible], [illegible], A.N.; [illegible], Yu.P.

Determining the angle of groove taper filling during the hot pilgrim mill rolling of tubes. Izv. vys. ucheb. zav.; chern. met. 8 no.7:95-98 '65. (MIRA 18:7)

1. Moskovskiy institut stali i splavov.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

L 1384-66 EWT(m)/EWP(t)/EWP(k)/EWP(b)/EWA(c) JD/HW

ACCESSION NR: AP5013074 UR/0149/65/000/001/0136/0141

AUTHOR: Shevakin, Yu. F.; Kozlov, O. F.; Seydaliyev, F. S. 44,55

TITLE: Investigation of the process of transverse tube rolling

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 1, 1965, 136-141

TOPIC TAGS: metal tube, metal rolling, plastic deformation

ABSTRACT: The fundamental characteristics of the tube rolling process are experimetally studied using stock with dimensions of 146 × 5.5-8 mm. The rolling was done by a driven mandrel with non-driven rolls. The working rolls were located on opposite sides of the workpiece and had a complex shape consisting of a cylindrical supporting section, a collar, a cylindrical grooving band and a tapered tail section. The axial feed of the workpiece, the angle of the roll flange and the absolute reduction in wall thickness were varied within wide limits during the rolling process. An oscillographic record of the force parameters was kept by using strain gauges and amplifying equipment. Deformation was studied by determining the dimensions of the tube before reaching the deformation point and the tube dimensions at the point itself. The hardness of the metal was measured with respect to thickness

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ACCESSION NR: AP5013074

and length of the specimen. Analysis of the experimental data indicates that when reductions in wall thickness are small and roll collar angles are large, axial stresses arise in the metal ahead of the collar which exceed the shearing strength of the metal. Thus the surface metal is sheared off and there is a buildup ahead of the roll flange. This metal buildup (increase in wall thickness) reduces the axial stresses, and equilibrium is reached at the deformation point when the stresses reach a certain minimum value. The metal buildup increases the dimensions of the deformation source causing nonuniformity in deformation of the metal with respect to thickness. Outside the contact zone, the length of the workpiece is reduced and the cross section is increased, while at the deformation point there is an increase in the length of the specimen and a reduction in tubular cross section. This type of deformation increases energy consumption since the contact surface may be doubled. Orig. art. has: 5 figures, 1 table.

ASSOCIATION: Kafedra tekhnologii i avtomatizatsii prokatnogo proizvodstva Moskovskogo instituta stali i splavov (Department of the Technology and Automation of Rolling Production, Moscow Institute of Steel and Alloys)

SUBMITTED: 10Mar64 ENCL: 00 SUB CODE: IE, MM

NO REF SOV: 004 OTHER: 000

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHEVAKIN, Yu.F.; POPOV, M.V.; SEYDALIYEV, F.S.; ODINTSOV, B.P.

Investigating strains in the connecting rods of cold pipe rolling mills with counterweight balancing. Izv. vys. ucheb. zav.; chern. met. 8 no.7: 124-127 '65. (MIRA 18:7)

1. Moskovskiy institut stali i splavov i Ukrainskiy nauchno-issledovatel'skiy trubnyy institut.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

SHCHAKIN, Yu.F., PASTUKHOV, V.I.

Force conditions of pipe deformation in the backup assembly of an electric pipe welding machine. Izv. vys. ucheb. zav., chern. met. 8 no.9:103-107 '65. (MIRA 18:9)

1. Moskovskiy institut stali i splavov.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

L 3497-66 EWT(d)/EWT(m)/EWA(d)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(z)/EWP(b)/EWP(l)/
EWA(c) IJP(c) MJW/JD/HW

ACCESSION NR: AP5024861 UR/0136/65/000/010/0072/0075

669.715:621.771.2

AUTHOR: Shevakin, Yu. F.; Molodchinin, Ye. V.

TITLE: Stresses accompanying the rolling of preheated aluminum-alloy tube

SOURCE: Tsvetnyye metally, no. 10, 1965, 72-75

TOPIC TAGS: metal rolling, aluminum alloy, metal tube, induction furnace

ABSTRACT: Since Alferova and Ostrin (Byull. TsIINChM, no 7 (387)) showed that, in the rolling of stainless-steel tube, preheating assures a reduction in the pressure exerted by metal on the rolls, the authors experimented with the rolling of preheated AMg6 (aluminum-alloy) skelp (preheated at temperatures of 25, 100, 150, and 200°C) in a specially adapted KhPT-75 rolling mill equipped with an induction heating installation. The total pressure exerted by the metal on the rolls and the axial stress sustained by the skelp were measured by methods described elsewhere (see, e.g. Shevakin, Yu. F. Kalibrovka i usiliya pri kholodnoy prokatke trub, Metallurgizdat, 1963). Contrary to the expectations, it was found that the pressure exerted by the metal on the rolls increases rather than de-

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L 3497-66
ACCESSION NR: AP5024861

creases with increasing preheating temperature. This is chiefly attributable to the insignificant differences in the strength properties of AMg6 alloy over the temperature range investigated and the increase in friction coefficient with increasing preheating temperature of the skelp, owing to the partial burnout of the lubricant. This is accompanied by a decrease in the total axial stress as well as in torque and hence also in the expenditure of energy on deformation of the metal. Orig. art. has: 4 figures, 3 tables, 3 formuls.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUP CODE: MM, IE

NO REF SOV: 004 OTHER: 000

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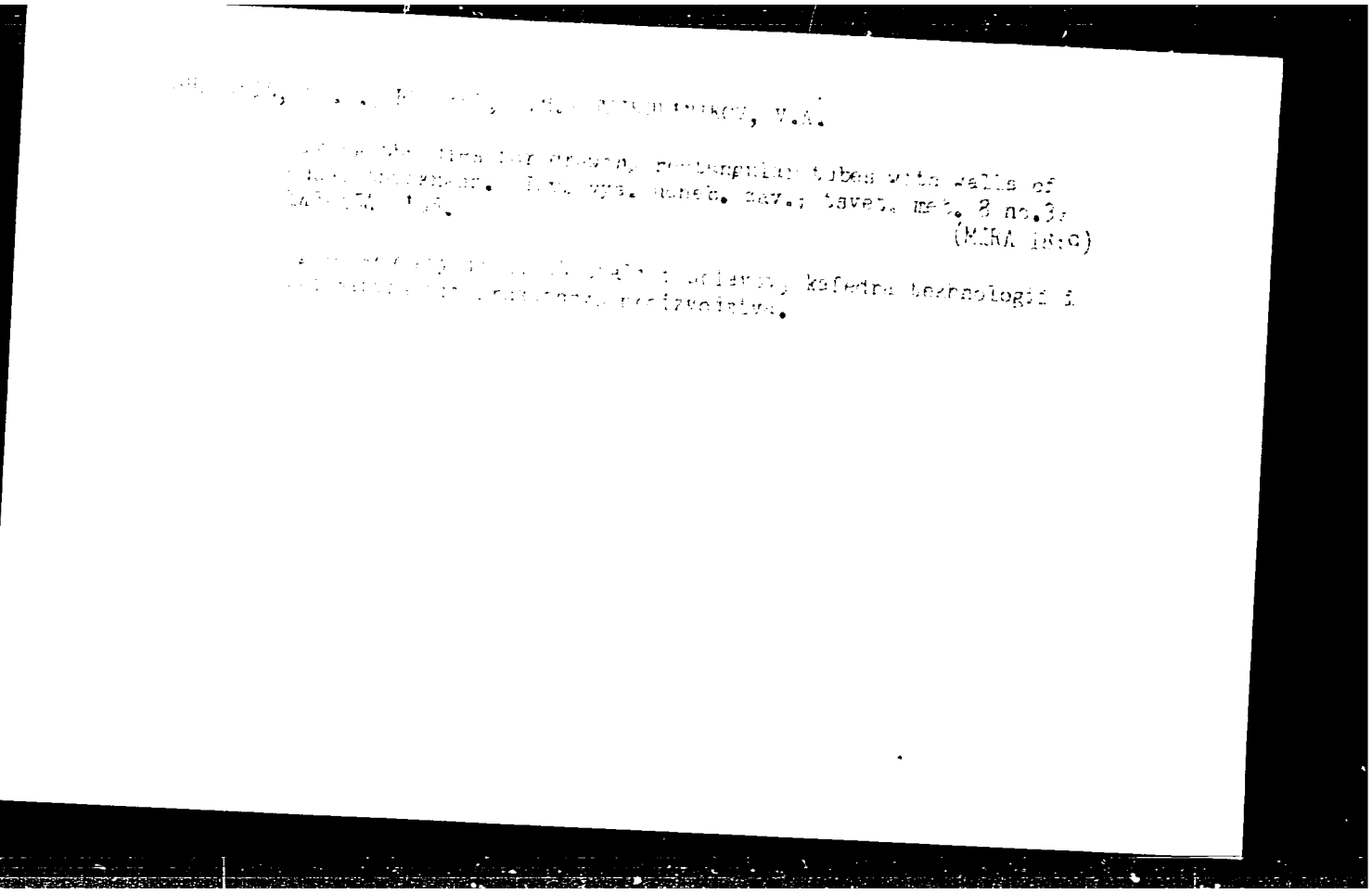
"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6



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PAVLOV, I.M., prof.; SHEVAKIN, Yu.P., kand.tekhn.nauk; SEYDALIYEV, Yu.S., inzh.

Using sulfurous molybdenum as a lubricant in the cold rolling of pipe. Izv. vys. ucheb. zav.; chern. met. no.7:191-193 Jl '58. (MIRA 11:10)

1. Moskovskiy institut stali. 2 Chlen-korrespondent AN SSSR (for Pavlov).

(Metal-working lubricants)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

RUSINOVICH, Yu.I.; SHEVAKIN, Yu.V., doktor tekh.nauk, rukovoditel' raboty

Correlation of deformation during the cold rolling of titanium alloy pipes. TSvet. met. 35 no.9:75-79 S '62. (MIRA 16:1)
(Rolling (Metalwork)) (Deformations (Mechanics))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130011-6

YEDVABNIK, Yu.A.; Prinimali uchastiye: ZATYAN, S.G.; KARANOVICH, G.I.; SHEVALENKO, I.S.

Study of the operation of a bucket slurry feeder as the regulating organ of a system of automatic control of the feeding of a rotary kiln. Trudy Yuzhgiprotsementa no.4:63-78 '63. (MIRA 17:11)

1. Gosudarstvennyy institut po proyektirovaniyu tsementnykh zavodov v yuzhnykh rayonakh SSSR (for all except Yedvabnik).

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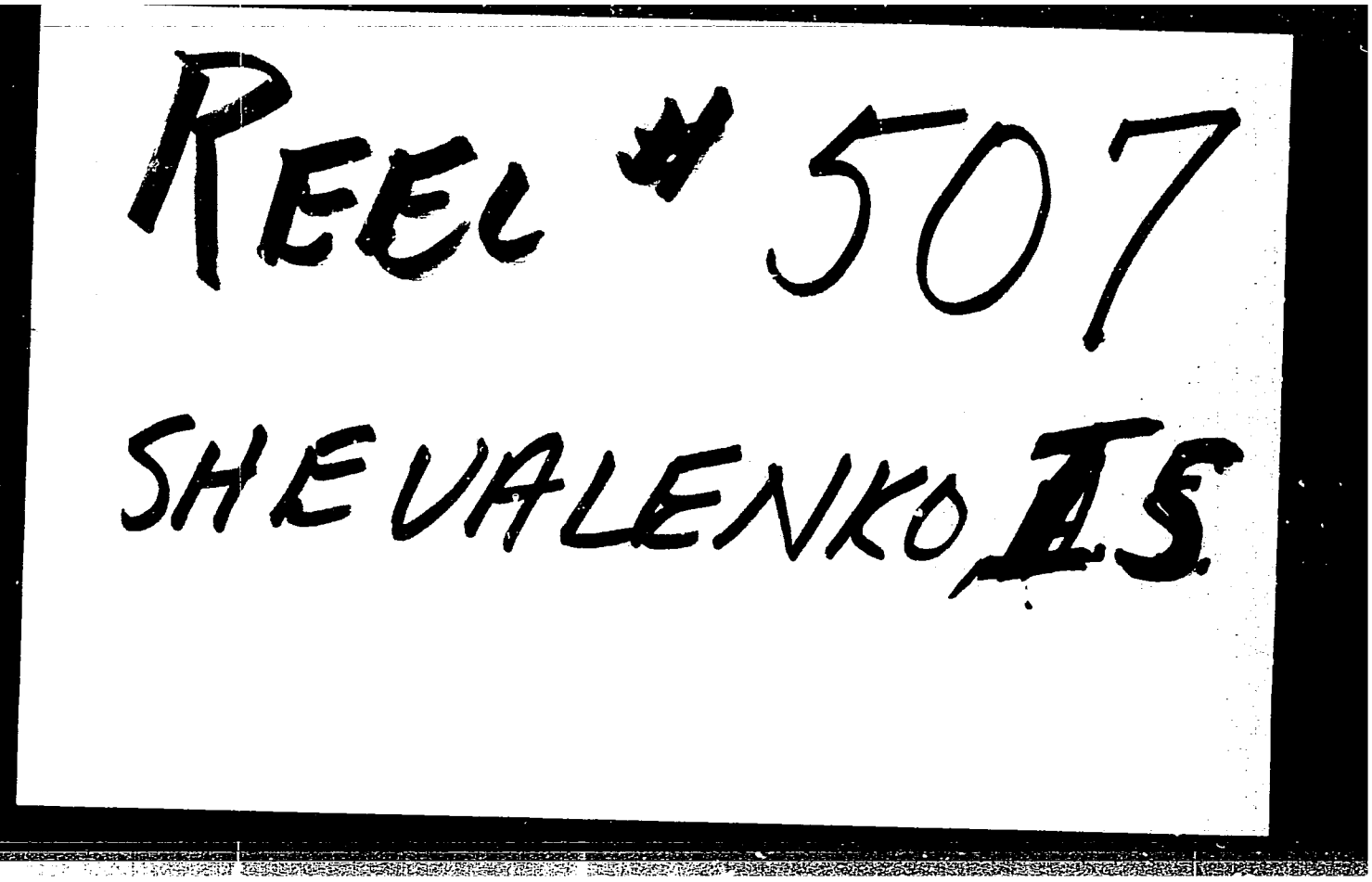

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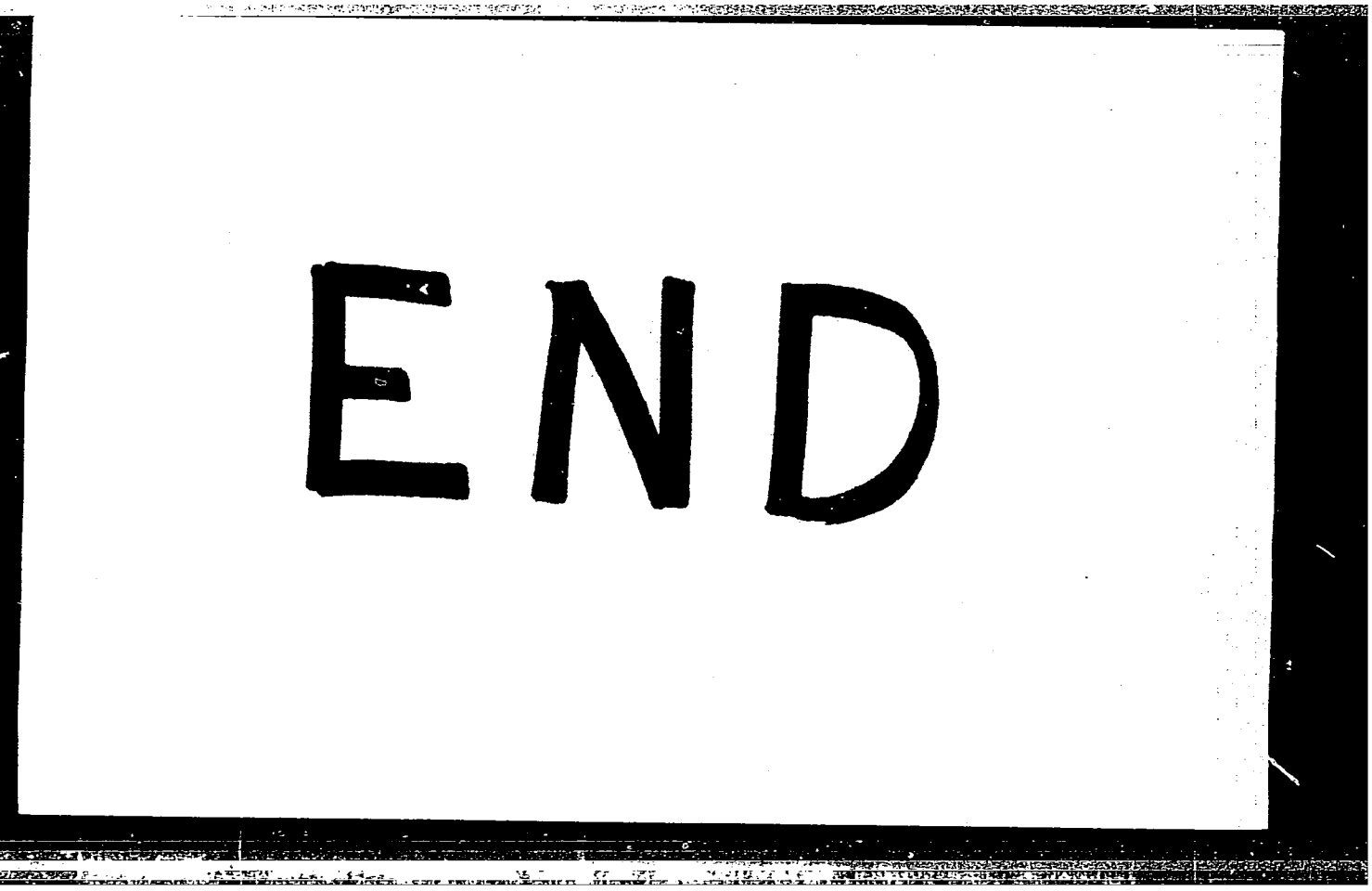

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